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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,657	09/29/2003	Byung Soo Song	HI-0179	9020

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EXAMINER	
RAHMJOO, MANUCHER	
ART UNIT	**PAPER NUMBER**
2676	

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/671,657	SONG ET AL.	
	Examiner	Art Unit	
	Mike Rahmjoo	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *1-3,6-8 and 15-27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-5 and 9- 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Species I (fig.5, claims 4,5, and 9- 14) in the reply filed on 11/30/2005 is acknowledged. The traversal is on the ground(s) that "the subject matter of each of the designated inventions is sufficiently related that a through search for the subject matter of each of the designated inventions would encompass a search for the subject matter of the remaining designated inventions". This is not found persuasive because 1) the different embodiments which are designated by applicant as 1- 4 respectfully referring to figures 4, 11, 13 and 15 and 2) each said different embodiment has the specifics which the others lack, e.g. group 1 (figure 5) has the specific step of false contour detection part the output of which is directly input motion extraction part which groups 2- 3 (figures 11 and 15) lack. Group 2 (fig. 11) has the specific step of homogenous filter which groups 1 and 3 lack (figures 5 and 15). Group 3 (figure 15) also has the specific step of selective dithering processing part that groups 1- 2 (figures 5 and 11) lack. Therefore the search required for Group 1 is not required for Groups 2- 3, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

Claim 4- 5 and 9- 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 4 lines 2-3 applicant recites "...regions from video data of a previous frame period...". It is unclear what applicant is claiming due to the fact that contour regions can not be generated from frame period. Regions may be generated from locations.

As per claim 5 line 3 applicant recites "...the video data is delayed...". It is not made clear which video data applicant is claming.

As per claim 5 line 3 applicant recites "...by a frame memory...". It is not made clear how a delay is made by "memory".

As per claim 9 line 4 applicant recites "...16, 32, 64 and 128...". It is unclear what the numbers represent.

Claim 9 recites the limitation "the grey scale" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the movement" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the gray scale" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the basis of the velocity" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the direction" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the basis of the size" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4- 5 and 9- 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Margulis et al, US Patent 6,157,396, hereinafter, Margulis.

As per claim 4 and as to the broadest reasonable interpretation by examiner, Margulis teaches respectively detecting false contour generation regions from video data of a previous frame period and a current frame period see for example column 8 lines 25- 30 for the edge detection and column 22 lines 45- 65 for edge detection not only in the current frame but in the surrounding frames; extracting a motion information from the video data of the previous frame period and the current frame period including

the detected respective false contour generation regions see for example column 10 lines 35- 40 for the frame to frame extraction corresponding to extracting a motion information from the video data of the previous frame period and the current frame period and column 21 lines 22- 35 for the extraction of motion information in adjacent frames; and compensating the false contour by using the extracted motion information see for example column 8 lines 50- 60.

As per claim 5 and as to the broadest reasonable interpretation by examiner, Margulis teaches the video data of the previous frame period is stored such that the video data is delayed (adjusting the frame rate) during one frame period by a frame memory see for example column 11 lines 45- 67 through column 12 lines 1- 9.

As per claim 9 Margulis inherently teaches the false contour is generated when the gray scale (color intensities) having a combination of a plurality of sub-fields is any one among 16, 32, 64 and 128 see for example column 16 lines 34- 67 through column 17 lines 1- 5.

As per claim 10 Margulis teaches matching (comparing the new and previous frame data) the video data of the previous frame period with the video data of the current frame period see for example column 17 lines 60- 65; and extracting the motion information from a change of the movement of the false contour generation region included in the video data of the previous frame period and the current frame period see for example column 10 lines 35- 40 for the frame to frame extraction corresponding to extracting a motion information from the video data of the previous frame period and the current frame period and column 21 lines 22- 35 for the extraction of motion

information in adjacent frames.

As per claim 12 Margulis teaches setting a compensation value on the basis of the velocity value and adding or subtracting the compensation value to or from the gray scale which has generated the false contour depending on the direction see for example column 21 lines 5- 20.

As per claim 13 Margulis teaches setting the compensation value on the basis of the size of the gray scale see for example column 12 lines 45- 55.

As per claim 14 Margulis teaches the compensation value is varied in proportion to the velocity value see for example column 21 lines 15- 20.

As per claim 11 and in light of rejection of claims 12- 14, Margulis teaches size, direction and velocity value of the gray scale.

Examiner further points out that size, direction and velocity are inherent attributes of motion and therefore by teaching motion information as per rejection of claim 4, said attributes are automatically taught.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Us Patent 6,614,847 and 5,978,510, 6,421,384, 6,157,745.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is (571) 272-7789. The examiner can normally be reached on 6:30- 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272- 7778. The fax phone number for the organization where this application or proceeding is assigned is (571) 273- 8300 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Mike Rahmjoo

December 29, 2005

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600